

TRAINING OF HUMAN RESOURCES FOR RAIL TRANSPORT THROUGH DISTANCE EDUCATION

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Abstract

The present work presents the Project of Distance Education (PDE) in the ambit of the transport section for the rail modality that it will allow, through the use of new technological tools, associated mainly to the capacity of the Internet system and other communication efforts at distance, to supply the lack of professionals with skilfulness of managing the process of modernize the Brazilian rail system.

Firstly, the Project of Distance Education intends to center in rail North-South needs administered by VALEC – “Engenharia, Construções e Ferrovias S. A.” (Engineering Rail Constructions). It is hoped that other partnerships are coming to join the Project. The size of the country associated to its geography induces, naturally, the use of modern communication means for such a project.

Keywords: distance education, engineering education, railway transportation

1. Introduction

The transports services are economic goods of intermediary use, being constituted as a middle of connection between the production and the consumption, reason for its virtues and defects are

transmitted to whole group of the productive activities. For this reason the success of any Development Program is affected by the intrinsic relationships of the market, the production, the financing politics, the use and conservation of the roads and facilities of transports. So, the Brazilian current conjuncture comes favorable to the attainment of a Program of Human Resources of Training, considering the Federal Government's action in the rail area. For instance, the Rail Transnordestina Project execution linking several States of the Northeast and North Area, and the new linkage in the South North Rail, that will link State of Maranhão to the Brazil Center-West and Southeast areas, racionalizing the flow of the production.

At the same time, in a new phase in the development of the Brazilian economy based on the integration of the economies among countries, the Federal Government is incentivizing the national industry to invest in the improvement of the quality of its products. This process of opening the Brazilian economy generates an increase expectation in the commercialization of products that reflect in the demand for transport.

The University, will fit to contribute for the technical, scientific and cultural emancipation of Brazilian society aiming to overcome the difficulties in human resources training in the rail.

2. Distance Education Needs in the Rail Transport

Historically, the country privileged the road transport although its geographical peculiarities suggested an option for the rail transport. However, a significant rail net, in operation, already exists (about 30.000 km of railway) joining the systems of the companies “Rede Ferroviária Federal S/A – RFFSA”, “Ferrovias de São Paulo S/A – FEPASA”, “Companhia Vale do Rio Doce – CVRD” and “VALEC – Engenharia Construções e Ferrovias”.. (Engineering Rail Constructions)..

It is verified that the recently privatized net of RFFSA embracing the country as a whole, is divided in six sub-systems and represents 90% of the total net, which gives it a prominence role in the country.

The resources volume to invest in the rail system transport and in human resources formation – in graduated or technical level – has been reduced for a long time.

The National Program of “Desestatização” - PND – created by the Law 8031 of 12/04/90, has stimulated the recovery of the transport system. Particularly the railway system has been competing for revision of the dominant paradigm (prioritization of the road transportation). It is observed that the extension of the rail net, added to the integration lack among the several sub-systems requests larger diffusion of information among systems and improvement of its human resources training.

3. The Applied Educational Technology to the Rail Transport

The progress in information and communication technologies comes throwing new challenges to society. So, the Distance Education is an alternative for modernization, improvement and human resources formation. Significant experiences have been developed in Brazil since 1996. Distance Education concept is going through a revolution and it is being legalized by the recently approved Law of Guidelines and Bases for the Education (Lei de Diretrizes e Bases da Educação – LDB). In this phenomenon there are vanguard institutions, as the “Universidade Federal do Rio de Janeiro” (Federal University of Rio de Janeiro), aiming to democratize the knowledge inside of its laboratories and real class rooms.

The observation of recent tendencies in productive organizations identifies the growth of a structure with characteristics different from the one that it has been prevailing to today. This change is justified by technology growing complexity and diversification, and also for the needing for the needs to companies turn more flexible in order to deal dynamically. Thus each company has been trying to define its strong point and concentrated its efforts in the maintenance and development. The activities,

where the company is not strong, are developed by specialized companies. So, partners appear and in that specialization.

In the case of Brazil system transport restructuring it stands out the privatization of the rail operation which demands human resources training, mainly to assist the North and Northeast Regions. Therefore, the use of Distance Education is an improvement on the formation of human resources able to participate in the new working relationships and production, generated by the progress of science and technology.

The first partner of the Project described here, will be, probably the “Universidade Estadual do Maranhão” (State University of Maranhão) – UEMA. The course will be organized according to the following:

- a) to analyse methodologies and instruments that facilitate the training process;
- b) to develop the culture of the educational technology adequated to the real needs of UEMA development:

3.1 Distance Education

- To develop and to implant complements programming to the training activities, through tests and other treated information in order to assure continuity to the process and its integration to the politics of permanent education;
- To maintain the cadaster of addresses and teachers' up-to-date, in order to provision them with modernization subsidies;
- To check priorities to the deliverance of information for the teachers which work in areas distant from the professional formation centers.

3.2 Instructional Modules

- To maintain constantly up-to-date a instructional classification system, which allows different course compositions, in order to attend to an efficient and way the subject of the courses.
- To establish exchange with proven experience instruction in rail transport.

3.3 Special projects

- To attend the specific solicitations of training, particularly requested for the University in focus.

4. Course at Distance in the State University of Maranhão: a Proposal

Among the existent current initiatives in Brazil, to revitalize the rail transport system, it stands out the professional training through the Master Course Project degree in Rail Transport of the Federal University Fluminense (UFF), located in the State of Rio de Janeiro, with having foreseen still in 1998. The Course intends to attend the professional formation in engineering and in rail transport administration. For such, the project includes disciplines on rail operation, besides planning, management of companies operators, marketing and information systems.

The Project of the Transport Rail Course aims to form people able attend the modernization of the Rail Transportation System. It is intended to develop a Project of Distance Education (PDE) that will allow, through the use of new technological tools and the available functions of the Internet system and other communication efforts at distance to reach several subsystems of transport rail.

The Project of Distance Education intends to priority firstly, the North-South Railway.

5. Conclusions and Recommendations

Among the advantages of PDE described it can be mentioned the professionals' formation to attend to the demand for the rail transport related to the Brazilian economic model, in a more dynamic way at a smaller cost. It is hoped that partnerships like UEMA would come. The size of the country associated to its geography induces, naturally, the use of modern communication means for such a project.

6. Bibliography

[1] **MIRANDA**, L. M. O Ensino de Pavimentação e a Reforma Curricular do Curso de Engenharia Civil da UFMG. 19o Reunião Anual de Pavimentação – Cuiabá - MT, Brazil, out/95.

[2] **NEGROPONT**, N. A. A Vida Digital. Companhia das Letras, São Paulo, 1995

[3] **HOLLWOLLOWAY**, r. e., **OHLER**, J. Distance Education in Next Decade, G. J. Instructional technological Pas, 1991.